Laurent had proved, in 1892, that soil which contains both algæ and bacteria does assimilate free nitrogen from the atmosphere, but it was desirable to ascertain how far pure algæ, without bacteria, are endowed with the same capacity. This work was undertaken by the author, under the guidance of A. Koch. The result is that pure cultures of *Cystococcus* and, very probably also, of *Stichococcus* do *not* assimilate free nitrogen. On the contrary, a soil which contains both algæ and bacteria can be enriched to a considerable extent with nitrogen absorbed from the atmosphere. The algæ aid, in such cases, the bacteria in their work of assimilation, as they enrich the soil with hydrocarbons, which are required for the growth of the former. A sort of symbiosis thus takes place between the algæ and the bacteria; but, of course, it would be premature to maintain that no algæ whatever can absorb free nitrogen. —Materials for the Flora of the Turkestan Highlands: the Basin of the Zerafshan, by V. Komaroff. This is a detailed work in which a list of 362 species is given, and is preceded by a general sketch of the vegetation of the valley of the Zerafshan (this latter has already been referred to in a previous issue). —Physiological researches into the growth of elementary organisms, by K. A. Stameroff. The influence of light on the speed of growth of hyphæ of *Mucor*, *Penicillum*, and *Saprolegnia*, of rhyzoids of *Marchantia polymorpha*, and of the pollen of various plants, were studied, and complete results, both positive and negative, were obtained.—An addition to the lists of the flora of the Government of Novgorod, by V. Komaroff; and on the same flora, by A. Kolmovsky and A. Antonoff.

Vol. xxvi. 2, 1896: Section of Zoology and Physiology.—Some observations on the embryonic development of *Neomysis vulgaris*, var. *Baltica*, by Jul. Wagner, with five plates, fully summed up by the author in German.—Observations on spermatogenesis with spiders, by the same author, with two plates, and also fully summed up in German.—Note on the influence of a permanent current on the muscle irritated through the nerve, by A. D. Grigorieff.

SOCIETIES AND ACADEMIES.

London.

Royal Society, February 4.—"On the Condition in which Fats are absorbed from the Intestine." By B. Moore and D. P. Rockwood. Communicated by Prof. E. A. Schäfer, F.R.S.

In these experiments the solubility of the mixed fatty acids of beef suet, mutton suet, and lard in the bile of ox, pig and dog was determined at body temperature, and found to vary between 1 and 7 per cent. That the greater part of the fatty acids is *not* dissolved as soap is shown by the ready solubility in ether of the precipitate thrown down on cooling, and the ease with which it saponifies with sodium carbonate.

Undoubtedly a small portion of the fatty acids added combines with the alkali of the bile to form soaps, for the reaction, which is at first alkaline to litmus, changes afterwards, becoming strongly acid. The solubility of the mixed fatty acids in bile is only in part due to the bile salts, for a more concentrated solution of these than bile itself did not dissolve nearly so large an amount of fatty acids. And, again, mere removal of the "pseudo-mucin" from bile greatly diminishes its solvent action on fatty acids, although the "pseudo-mucin" redissolved in sodium carbonate has no solvent power.

The contents of the intestine were removed in dogs during fat absorption and filtered. The filtrate decomposed and dissolved neutral fats at the temperature of the body. This effect is due to the simultaneous action of pancreatic juice and bile. A similar result was obtained by acting on neutral fats with pancreas and bile, while pancreas alone decomposed the neutral fats into fatty acids, but did not dissolve them.

The solubilities stated above are quite sufficient to account for the removal of all the fat of the food from the intestine as dissolved fatty acid, since they exceed the concentrations found in the intestine of other materials, such as sugars and albumoses, which are removed in solution. Other experiments, however, on the reaction of the intestine during fat absorption, lead the authors to think that all the fat is not absorbed as dissolved fatty acids, but that these are replaced to a variable extent (in some animals to a very large extent or completely) by dissolved soaps.

The reaction of the contents of the small intestine to litmus during fat absorption in the dog is at the pylorus neutral, faintly acid or faintly alkaline; from here onwards the acidity increases, reaches a maximum about the middle of the small intestine, and then becomes less acid, to change to alkaline at a point situated about three-fourths of the way along the intestine. The reaction to methyl-orange and phenolphthaleïn explains this; the contents are alkaline to methyl-orange from pylorus to cæcum, and, equally completely, acid to phenolphthaleïn, showing that the acid reaction to litmus in the upper part is due to weak organic acids, while the alkaline reaction in the lower part is due to fixed alkali, accompanied by dissolved carbonic acid. The alkaline reaction to methyl-orange in the upper part, where it is acid to litmus and phenolphthaleïn, shows that in that part there is an excess of bases, above that quantity necessary to combine with all the inorganic acids, which are combined with weak organic acids (probably fatty acids). In the lower fourth or thereabouts, where the reaction is alkaline to litmus, there cannot be any fatty acids present in solution. Therefore any fat that is absorbed as free fatty acid must be taken up from the upper three-fourths of the intestine, where the reaction is acid to litmus.

In the white rat during fat absorption the contents of the small intestine is alkaline to litmus from pylorus to cæcum, and is never acid for a greater distance than two or three inches below the pylorus; in this animal, therefore, nearly all the fat must be absorbed in solution as soaps.

February 11.—"On the Regeneration of Nerves." By Robert Kennedy, M.A., B.Sc., M.D., Glasgow. Received January 7.

The author gives the clinical histories of four cases of division of nerves, in which restoration of function had not occurred at periods varying from a few weeks up to eighteen months from the date of section. Secondary suture was performed, and the sense of pain commenced to return in from two to five days, and sensation speedily became perfect. Motion was not recovered till a late date.

He concludes that this early return of function is due to restored conductivity of the divided nerves, and that the theories which have hitherto been advanced to account for return of sensation apart from reunion of the nerve, are inapplicable to cases in which *early* return of sensation occurs from suture, performed after the lapse of *several months* from the time of section. The tardy and imperfect return of motion is explained on the ground that the muscles have undergone great trophic change, as a result of long separation from their trophic centres.

From the histological changes found in the portions removed at the operations, he concludes:

(1) That there is no evidence of ascending degeneration of the kind described by Krause after interruption of a nerve.

(2) That the old axis-cylinder and myeline sheath are destroyed in the peripheral segment, and in the ultimate portion of the central segment.

(3) That young nerve fibres are developed in the peripheral segment, as well as in the end of the central segment, and that even while there is no connection between the two ends.

(4) That these young nerve fibres originate within the old sheath of Schwann from the protoplasm and nucleus of the interannular segment, the new axis-cylinder being developed from the protoplasm, while the nuclei remain attached to the sides of the new fibres.

(5) That so long as the conductivity of the nerve is not re-established, the development of the young fibres proceeds only to a certain stage, which may be regarded as a resting stage, as the fibres after three and eighteen months respectively present identical characters.

(6) That cicatricial intercalary segments may contain young nerve fibres from end to end without re-establishment of function, if the amount of cicatricial connective tissue in the mass is sufficient to prevent by its pressure the passage of impulses.

February 18.—"Note to the Memoir, by Prof. Karl Pearson, F.R.S., on Spurious Correlation." By Francis Galton, F.R.S. Received January 4.

This note was intended to serve as a kind of appendix to the memoir of Prof. K. Pearson, the author believing that it might be useful in enabling others to realise the genesis of spurious correlation. It was important, though rather difficult, to do so, because the results arrived at in the memoir, which are of serious interest to practical statisticians, have at first sight a somewhat paradoxical appearance.

The diagrams which accompanied the paper show how a table of frequency of the various combinations of two independent and normal variables may be changed into one of A/C, B/C, where C is also an independent and normal variable in respect to its intrinsic qualities, but subjected to the condition that the same value of C is to be used as the divisor of *both* members of the same couplet of A and B. In short, that the couplets shall always be of the form A/C_n, B/C_n, and never that of A/C_n, B/C_m.

Physical Society, February 26.—Mr. Shelford Bidwell, President, in the chair.—Mr. J. H. Vincent read a paper on the photography of ripples. If mercury is used as the medium, all waves less than 1·3 cm. long come under Lord Kelvin's definition of a ripple; that is to say, they are waves whose lengths are less than such as are propagated with minimum velocity. Vibrations in mercury of about 200 per second and upwards generate waves whose propagation is controlled almost entirely by surface tension, and these waves are therefore classed as "capillary ripples." Their speed of propagation is of the order of about one foot per second. They are invisible owing to their high frequency, and not in consequence of the velocity of their propagation. It is usual to examine them by some stroboscopic method. Mr. Vincent obtains photographs of the disturbed mercury surface by the sudden illumination of an electric spark. The spark is about half a centimetre in length, and it lasts about one two-hundred-thousandth part of a second. Its brightness is increased by an auxiliary spark-gap. The optical arrangement consists of two lenses, one in the path of the incident light, and another to converge the reflected light from the mercury surface into a photographic camera. Ripples are set up in the mercury by a stylus attached to a tuning-fork. For this purpose it is generally sufficient to give a slight blow to the prongs; but when continuous vibration is required, the tuning-fork can be connected by a thread to an electrically-driven fork, as suggested by Mr. Watson. The first photograph shows a series of circular waves, set up by a single stylus attached to a fork vibrating 180 times a second. Fixed points at known distances, just above the mercury surface, enable the wave-lengths to be deduced from the photographs; and, as the frequency is known, the surface-tension may be easily calculated. In a second photograph, two styluses are attached to the same prong. Dark lines are seen to radiate from the region between the centres of oscillation; these are the lines of minimum disturbance—hyperbolas, of which the centres of disturbance are the foci. This photograph illustrates "interference" similarly to the optical methods of Young and Fresnel. A third photograph shows the formation of elliptical curves of disturbance, being the loci of the intersection of two series of circles, corresponding one to each of two centres of vibration. Unlike the system of hyperbolas, these ellipses are not at rest, but travel outward from the sources. In order to render these ellipses stationary it would be necessary to change one of the *sources* into a *sink*, towards which the circular waves might converge; the photograph would then correspond to the optical device of M. Meslin, who obtains interference fringes by means of a screen placed between two point centres, one a *source*, and the other a *sink*. The phenomena of interference and diffraction are well shown in a photograph of a point source and a reflecting line. The reflector here is one side of a triangular piece of microscope cover-glass. The interference lines are due to the mutual action of incident and reflected rays; they are analogous to Lloyd's single-mirror fringes. Other photographs exhibit analogues of "spherical aberration" and "forced vibration." Mr. Vincent acknowledged his indebtedness to Mr. Boys for the recommendation of attempting the photography of capillary ripples. Mr. Boys congratulated the author upon the way in which the experimental difficulties had been overcome. The results would bear a good deal of close examination, and they would be found to present analogues of the greatest service in demonstrating the phenomena of acoustics and optics. Such photographs were far better than geometrical pictures drawn by instruments. For example, in the photograph illustrating the regions of minimum disturbance by lines radiating from a two-point source, it was easy to make out the positions where the two series of waves were half a period behind one another. The crests and troughs appeared as a set of dark and light concentric alternating circles, broken up into short arcs by radiating lines, the loci of minimum disturbance; all the crests on one side of any particular radiating line were seen to correspond to troughs on the other side, so that the field of disturbance was mapped out as in acoustics. One set of phenomena yet awaited illustration by this photographic method, and that was "diffraction" from a grating. It might be possible to use as an exciter a comb with chisel-shaped points. He did not think it would be possible to go quite so far as to reproduce analogues of spectral analysis. Since wave-length varies with surface-tension it was possible to vary the wave-length by dropping a little ox-gall or soap solution upon the mercury surface. Mr. Blakesley asked why no reflections occurred from the sides of the mercury retainer. Mr. Boys said the waves were lost at the edges of the meniscus. The mercury was kept in position by an annular ring of thin glass. Mr. Appleyard suggested that the analogue of refraction might be obtained by an alteration of the surface-tension over a small area, by amalgamation or other means. Mr. Vincent thought this could be done, but that it would be very difficult. The President proposed a vote of thanks to the author.—Mr Elder then read a paper, by Mr. Beckit Burnie, on the thermo-electric properties of some liquid metals. The investigation was made with a view to determining the effect of melting upon the thermo-electric properties of certain metals. The metal to be tested is contained in a W-shaped glass tube, of which one limb can be cooled and the other heated. Thus one limb can contain molten, and the other solid, metal. Copper-wires are plunged, one into each limb, and through these connection is made with a galvanometer. The thermal-junctions, therefore, are copper-hot metal, and copper-cold metal. The temperature is deduced from a separate thermal-couple, calibrated by a mercurial thermometer. Curves are drawn coordinating temperature and electro-motive force. It is found that their slope depends upon the rate of cooling or heating of the metals; this is particularly the case with bismuth. The effect is attributed to the variation in crystalline structure of the metal under test, at different rates of solidification. With tin the change is less marked, and with lead it is unnoticeable. At or about the melting points, there is considerable change of slope in the curves. Here, again, the effect is smallest for lead; somewhat greater with tin; and remarkably large with bismuth; the latter changing from an exceedingly active thermo-electric metal to one resembling lead. A great change occurs also with mercury at the melting point, indicating a difference in the Peltier effect between solid and molten metals.—A vote of thanks to Mr. Beckit Burnie was proposed by the President, and the meeting adjourned until March 12.

Linnean Society, February 18.—Dr. D. H. Scott, F.R.S., Vice-President, in the chair.—Mr. J. E. Harting exhibited under a glass case the nest of a wren built of moss in the dried body of a rook which had been hung up as a scare-crow in Gloucestershire. Similar instances of the kind had been recorded (*Essex Nat.* ii. 205 and iii. 25). He called to mind the nest of a swallow in the dead body of an owl mentioned by Gilbert White, and referred to other cases which had been collected by a former President of the Society (Bishop Stanley, "Hist. Birds"). For instances of nests of the hoopoe placed in the desiccated bodies of unburied men, he referred to the experience of Pallas in Russia and of Swinhoe in China.—On behalf of Mr. D. T. Gwynne Vaughan, Dr. D. H. Scott gave the substance of a paper on the morphology and anatomy of certain *Nymphæaceæ*.—Mr. J. H. Burrage read a paper on the adhesive discs of *Ercilla spicata*, Moq.

Entomological Society, February 17.—Mr. R. McLachlan, F.R.S., Vice-President and Treasurer, in the chair.—Messrs. Champion and Jacoby exhibited the collection of Phytophagous Coleoptera made by Mr. H. H. Smith in Grenada and the Grenadines for the West India Exploration Committee of the Royal Society.—Mr. F. C. Adams exhibited rare Diptera taken in the New Forest during the preceding year, and including *Callicera ænea* and *Nephrocerus flavicornis*.—Mr. M. Burr showed an example of an undetermined species of locust taken in the Post Office at Bedford Street, Strand, and six new species of Acrydiidæ of different genera.—The Secretary exhibited a Cicada larva from which a fungus, probably *Cordyceps sobolifera*, was growing, which had been sent to the Society from Venezuela, with an inquiry as to its real nature.—The Rev. Dr. Walker showed a series of Coleoptera, Hymenoptera, and Diptera, collected in the Orkney Islands during the previous season.—Mr. Tutt exhibited bred examples of the extreme radiate variety of *Spilosoma lubricipeda*. This variety occurred naturally in Heligoland, and its existence in Great Britain was probably attributable to accidental importation.—Mr. Jacoby and Mr. Champion communicated a list of the Phytophagous Coleoptera obtained by Mr. H. H. Smith in St. Vincent, Grenada, and the Grenadines, with descriptions of new species.

Geological Society, February 19.—The following officers were elected:—President: Dr. Henry Hicks, F.R.S. Vice-Presidents: Prof. T. G. Bonney, F.R.S., Lieut.-General C. A. MacMahon, J. J. H. Teall, F.R.S., and Dr. Henry Woodward, F.R.S. Secretaries: J. E. Marr, F.R.S., and R. S. Herries. Foreign Secretary: Sir John Evans, K.C.B., F.R.S. Treasurer: Dr. W. T. Blanford, F.R.S. The medals and funds were awarded as announced in Nature of January 14 (p. 256). The President delivered his anniversary address, which dealt with some recent evidence bearing on the geological and biological history of Early Cambrian and Pre-Cambrian times.

Edinburgh.

Royal Society, February 15.—Prof. Geikie in the chair.—A paper, by Prof. Crum Brown and Dr. Bolam, on the electrolysis of potassium ethyl-sulphone-acetate was read by the former. The electrolysis of this salt takes place in a manner quite analogous to that of potassium acetate, the product corresponding to ethane $(CH_3)_2$ being ethylene di-ethyl-sulphone $(CH_2.SO_2.C_2H_5)_2$.—A paper by Lord Kelvin, on configurations of minimum potential energy in clusters of homogeneous molecules, with application to the theory of crystalline forms, was read by Prof. Tait.—Dr. Beattie described further experiments, conducted by Lord Kelvin, Dr. Smolan, and himself, on the apparent and real diselectrification of solid insulators by flame, by air in contact with white-hot metal, by ultra-violet light, and by Röntgen rays (see p. 343).—Prof. Gibson read a paper on photo-chemical action.—Prof. Tait read a paper on the compressibility of salt solutions. On the hypothesis that the compressibility of an aqueous solution of a salt is inversely proportional to its internal pressure, an attempt is made to find the *effective* volume of the dissolved salt, as compared with its volume in the solid form. The experimental data have been employed also to find the nature of the changes in the (nearly constant) ratio $(D - 1)/S$, where D is the density of the solution, and S the mass of salt in 1 of water. It diminishes slowly with increase of S in all the cases examined, with the single exception of common salt, where it increases slowly. Its actual value has a wide range, being nearly unity for magnesium sulphate, and little more than 0·5 for ammonium sulphate.

Manchester.

Literary and Philosophical Society, February 9.—Dr. Edward Schunck, F.R.S., President, in the chair.—On hypoiodous acid and hypoiodites, by R. L. Taylor. The author referred to the work done on the subject by Schönbein, by Lunge and Schoch, by Schwicker, and, more recently, by Walker and Kay, and pointed out that, when an aqueous solution of iodine is treated with an alkali, a solution is obtained which bleaches much more strongly than chlorine water or hypochlorites. He also investigated the action of aqueous solution of iodine on mercuric oxide, and finds that hypoiodous acid is formed, but possesses very feeble bleaching properties, which, however, are greatly increased by the addition of a small amount of alkali. Hypoiodous acid also appears to be formed by the action of iodine water on certain silver salts; but this solution is much less stable, and loses 90 per cent. of its bleaching power in five minutes.

Paris.

Academy of Sciences, February 22.—M. A. Chatin in the chair.—Note on the sixth volume of the "Annals de l'observatoire de Bordeaux," by M. Lœwy. The present volume contains a memoir by M. Rayet on the climate of Bordeaux, one by M. Kromm on the Comet 1893 III., and further observations relating to a revision of the austral zones of Argelander.—On the physiological *rôle* of the leucocytes, with especial reference to wounds in the cornea, by M. L. Ranvier. From the observations cited it is maintained that the so-called inflammatory phenomena are really physiological, differing only in intensity from those observed during embryonic development.—On the existence of anode rays analogous to the kathode rays, by M. de Heen.—Photography of the electric radiations of the sun and the solar atmosphere, by the same.—Note on some photographs obtained through plates of various metals, by M. de Sanderval.—Description of the photographic method, allowing of the production of positives in two colours, by M. A. Graby.—On the quadratic integrals of the equations of mechanics, by M. Lévi-Civita.—Remarks on the preceding communication, by M. Appell.—On the formation of the solar system, by M. du Ligondès.—A reply to the objections raised by M. Wolf to M. Faye's theory.—Automatic recording of the bending in the testing of metals, by M. Ch. Fremont.—New method for producing transparent crystals, by M. Ch. de Watteville. If the crystal is kept slowly rotating during its growth, its lustre and transparency are much increased.—On pyrosulphuryl chloride, by M. A. Besson. This substance can only be obtained pure by fractional distillation under reduced pressure. Its boiling point is 53° C. under 15 mm. pressure, 142° C. at 765 mm., and its melting point - 39° C. The reactions with hydrogen bromide, hydrogen iodide, hydrogen sulphide and phosphide are given.—Anethol and its homologues, by MM. Ch. Moureu and A. Chauvet. The method of preparation described is a simplification of the original synthesis of Perkin.—On the soluble oxidising ferment causing the decolorisation of wine, by M. P. Cazeneuve.—On the examination of white wines for coal tar dyes, and the differences between these colours and the caramel colours, by MM. Alb. d'Aguiar and W. da Silva. The reagent employed is amylalcohol acting upon the wine rendered alkaline with ammonia.—Experimental researches on the mechanism of cutaneous hyperemia, by MM. Jacquet and Butte.—On the part played by recurring images in the irradiation phenomena shown by short flashes of light, by M. Aug. Charpentier.—Absorption of nitrogen and hydrogen by the blood, by M. Christian Bohr. The absorption of nitrogen by blood is always somewhat greater than that absorbed by water under similar conditions, and this difference is much increased if oxygen is present along with the nitrogen.—A new generic type of mycomycetes, by M. E. Roze.—The use of sulphate of iron for the destruction of the parasitic cryptogamia of the vine, by M. Croquevielle.—On a crystallised mineral (metabrushite) formed in a leaden coffin, by M. A. Lacroix.—On the Cretaceous beds in the region of Mondégo, by M. Paul Choffat.—The second international ascent of the *Aérophile*, by MM. Hermite and Besançon. The highest point reached was about 15,000 metres, and the minimum temperature - 66° C.

Amsterdam.

Royal Academy of Sciences, November 28, 1896.—Prof. vande Sande Bakhuyzen in the chair.—Prof. van Wÿhe exhibited a number of anatomical preparations fixed by means of formol, and discussed the conception of the spinal nerve as a complex of two independent nerves.—Mr. Hamburger dealt with the influence of respiration upon the size and shape of the blood corpuscles. In the minute blood-vessels of the tissues the red and the white blood corpuscles undergo a swelling; in the capillaries of the lungs they shrink again. Notwithstanding the swelling the *red* corpuscles show, on microscopic examination, a decrease of diameter. This is to be ascribed to their losing their biconcave flattened form under the given circumstances, and their tendency to assume the globular shape. The swelling is accounted for by the fact that under the influence of CO_2 the proportion of water-absorbing substances increases in a greater measure in the blood corpuscles than in the serum. This brings about a disturbance in the osmotic equilibrium, in consequence of which the blood corpuscles absorb water and swell.—Mr. Jan de Vries presented a paper on geometrical proofs of theorems in number.—Prof. van der Waals presented, for publication in the Academy's *Proceedings*: (1) On behalf of Prof. C. A. J. A. Oudemans, a paper, entitled "Notice sur quelques champignons nouveaux." (2) On behalf of Prof. Kamerlingh Onnes: (*a*) A paper by Mr. L. H. Siertsema, on temperature-coefficients of aneroids. As causes of the usually rather high temperature-coefficients of aneroids are adduced 1° the expansion of the metal, 2° the decrease of the elasticity-coefficients of spring and vacuum box, 3° the expansion of the residual air in the box. An investigation into the consequences of 1° shows that this cause can produce only a small part of the temperature-coefficient. If this cause be left out of account in a first approximation, then the temperature-coefficient λ, when deduced from 2° and 3°, is found to be $\lambda = p(\alpha + \eta) - A\eta$, in which p represents the pressure of the air in the box at 0°, α the expansion-coefficient of air, η the quantity by which the variation of the elasticity-coefficient of the spring is measured $[E_t - E_o(1 - \eta t)]$, and A the barometric pressure. A comparison with what has been observed experimentally on this point shows that the formula is not in opposition with experience. For a complete numerical comparison, however, more data would be required. (*b*) An account of some further experiments made by Dr. Zeeman in the Leyden Laboratory, concerning the influence of magnetism on the lines of the spectrum (see pp. 347, 370). (3) On behalf of Mr. J. D. van der Waals, junr., some observations on the law of corresponding states, in which the results of an investigation concerning alcohol and ether by Battelli are compared with those arrived at by Young.—Prof. Lorentz, on the entropy of a gas. The author considers the connection between Boltzmann's H-function and the entropy.—Prof. Schoute, on the position of the sixteen foci of a circular cubic and a bicircular quartic.

DIARY OF SOCIETIES.

THURSDAY, March 4.

Royal Society, at 4.30.—Experiments on the Absence of Mechanical Connection between Ether and Matter: Prof. Lodge, F.R.S.—Second Report on a Series of Specimens of the Deposits of the Nile Delta. Communicated by desire of the Delta Committee: Prof. Judd, F.R.S.—The Palæolithic Deposits at Hitchin and their Relation to the Glacial Epoch: Clement Reid.—Luminosity and Photometry: Prof. J. B. Haycraft.

Royal Institution, at 3.—Greek History and Extant Monuments: Prof. Percy Gardner.

Society of Arts, at 8.—The Mechanical Production of Cold: Prof. James A. Ewing, F.R.S.

Linnean Society, at 8.—On a Trichoderma parasitic on *Pellia epiphylla*, Corda: W. G. P. Ellis.—New Species of Perichæta from New Britain, &c.: Dr. W. B. Benham.

Chemical Society, at 8.

Sanitary Institute, at 8.—Objects and Methods of Inspection: Dr. J. F. J. Sykes.

Camera Club, at 8.15. Captain Abney, C.B., F.R.S.

FRIDAY, March 5.

Royal Institution, at 9.—Some Curiosities of Vision: Shelford Bidwell, F.R.S.

Geologists' Association, at 8.—Some Properties of Precious Stones: Prof. Henry A. Miers, F.R.S.

SATURDAY, March 6.

Royal Institution, at 3.—Electricity and Electrical Vibrations: Lord Rayleigh.

Essex Field Club (at Buckhurst Hill), at 7.—The Post-Pliocene Non-Marine Mollusca of Essex; A. S. Kennard and B. B. Woodward.—Variation of Lepidoptera: J. W. Tutt.

MONDAY, March 8.

Imperial Institute, at 8.30.—Imperial Aid to Solar Research, with an Account of Recent Eclipse Expeditions: J. Norman Lockyer, C.B., F.R.S.

Royal Geographical Society, at 8.30.—Recent Discoveries South of Hudson Bay: Dr. Robert Bell.

Sanitary Institute, at 8.—Factories, Workshops, and Offensive Trades: Prof. A. Bostock Hill.

Camera Club, at 8.15.—Some Recent Investigations relating to X-Ray Work: Campbell Swinton.

TUESDAY, March 9.

Royal Institution, at 3.—Animal Electricity: Prof. A. D. Waller, F.R.S.

Royal Horticultural Society, at 1.—Microscopic Gardening.

Anthropological Institute, at 8.30.

Pharmaceutical Society, at 8.

Institution of Civil Engineers, at 8.—Papers to be further discussed: The Main Drainage of London: J. E. Worth and W. Santo Crimp.—The Purification of the Thames: W. J. Dibdin.—Paper to be read, time permitting: The Mond Gas-Producer Plant and its Application: H. A. Humphrey.

Royal Photographic Society, at 8.—Demonstration on the Making of Pictures: W. L. Wyllie.

Royal Victoria Hall, at 8.30.—Cyprus: A. H. Smith.

WEDNESDAY, March 10.

Society of Arts, at 8.—The Prevention of Fires due to the Leakage of Electricity: Frederick Bathurst.

Geological Society, at 8.—Volcanic Action in Guatemala in relation to Earthquakes in the British Isles: A. Gosling.—The Red Rocks near Bonmahon on the Coast of Co. Waterford: F. R. Cowper Reed.—On the Depth of the Source of Lava: J. L. Lobley.

THURSDAY March 11.

Royal Society, at 4.30.

Royal Institution, at 3.—Greek History and Extant Monuments: Prof. Percy Gardner.

Society of Arts, at 4.30.—Prevention of Famine in India: Sir Charles Alfred Elliott, K.C.S.I.

Mathematical Society, at 8.—On a Law of Combination of Operators bearing on the Theory of Continuous Transformation Groups: J. E Campbell.—A System of Circles associated with a Triangle: Prof Steggall.

Institution of Electrical Engineers, at 8.—On some Repairs to the South American Company's Cable off Cape Verde, 1893 and 1895: H. Benest.

Camera Club, at 8.15.—Forty Years Mountaineering: Hon. Justice Wills.

FRIDAY, March 12.

Royal Institution, at 9.—The Source of Light in Flames: Prof. A. Smithells.

Physical Society, at 5.—A Mechanical Cause of Homogeneity of Structure and Symmetry Geometrically investigated, with special application to Crystals and to Chemical Combination (illustrated by Models): William Barlow.

Royal Astronomical Society, at 8.

Malacological Society, at 8.

Anatomical Society (University College), at 4.

Institution of Civil Engineers, at 8.—The Inverness Section of the Inverness and Aviemore Railway: H. F. Brand.

SATURDAY, March 13.

Royal Institution, at 3.—Electricity and Electrical Vibrations: Lord Rayleigh.

Royal Botanic Society, at 4.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

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